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SYNOPSIS OF THE NORTH AMERICAN SPE-CIES OF ASTERINA, DIMEROSPORIUM AND MELIOLA.

BY GEORGE MARTIN, M. D.

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DIMEROSPORIUM.

DIMEROSPORIUM, Fckl. Symb. Myc. p. 89. (Etym. dis, meros and spora, a spore divided into two parts.) Perithecia superficial, globose, astomous, membranaceo-carbonaceous; mycelium copious, subcrustaceous, black, bearing conidia. Asci short, 8-spored; sporidia didymous, hyaline or brown. Sacc. Sylloge I, p. 51.

This genus is made up principally of species taken from Asterina and Meliola, and though this separation appears at best to be an arbitrary one, it has been thought that less confusion might arise by adopting it for the present.

1. DIMEROSPORIUM CLAVULIGERA (Cke.), Asterina clavuligera, Cke., Grev. VI. p. 142. Ravenel F. A., No. 76.

Mycelium brown black, remotely septate, branching, epiphyllous, spots orbicular, often coalescing, crustaceous, conidia light brown, obovate, 3-septate, pedicel hyaline, $45-48 \times 9-12 u$; perithecia black, subglobose, becoming depressed and at last scutellate from rupture, 250 u in diameter consisting of coalesced brown black, radiating hyphæ, covering a light brown, membranous sac; asci oval, $30 \times 18 u$; sporidia hyaline, oval or obovate, 1-septate, $21 \times 6 u$.

On leaves of Vaccinia and Andromeda, Florida.

2. DIMEROSPORIUM CAPNOIDES (Ell.) Asterina capnoides, Ellis. Am. Nat. 17, p. 318.

Mycelium brown black, branching, septate, hypophyllous; conidia brown, oval, 1-septate, 10—12 x 6 u; macro-conidia brown, pedicellate,

submuriform, 3-septate, 35—15 u; perithecia brown black, subglobose, 50—100 u in diameter; asci oblong-oval, sessile, 8-spored, 35—40 x 11-16 u; sporidia hyaline, subcymbiform, 1-septate, 2-seriate, 10—17 x 4—6 u. On living leaves of Asclepias Cornuti, Kansas.

3. DIMEROSPORIUM COLLINSII (Schw.) Theum., M. U. No. 840. Sphæria Collinsii, Schw. Syn. N. Am. 1512. Peck, 29th Rep. N. Y. State Mus., p. 59.

Mycelium brown black, septate, crustaceous, hypophyllous, covering the whole surface; perithecia black, globose, closely aggregated, 150-160 u; asci cylindrico-clavate, 8-spored, $45-60 \times 10$ u; sporidia hyaline, oval, 1-septate, 2-seriate, $12-15 \times 3-4$ u.

On leaves of Amelanchier Canadensis, and A. alnifolia, New York, Mass., and Sierra Nevada Mts., California.

4. DIMEROSPORIUM ELLISII, Sacc. Meliola maculosa, Ellis, Sylloge 1, p. 54. Bull. Torr. Bot. Club, 8, p. 91. Venturia maculosa, Ellis, N. A. F. No. 200.

Spots black, suborbicular, hypophyllous, 2—3 mm. in diameter; perithecia black, globose, 90-115~u in diameter, borne upon a brown, flexuous, remotely septate mycelium, with a circle of straight, black setæ at the base, structure cellular, setæ 100~x5, apices entire; asci cylindrical, 8-spored, 50-60~x10 u; sporidia ellipsoid, didymous, hyaline, mostly 1-seriate, 10-12~x4 u.

On fallen leaves of Andromeda (?), New Jersey.

5. DIMEROSPORIUM MELIOLOIDES (B. & C.) Asterina melioloides, B. & C. Grev. 4. p. 10. Meliola Baccharidis, B. & Rav. Grev. 4, p. 158.

Perithecia brown black, globose, rugulose, astomous, epiphyllous, clustered, 80-95 u in diameter, borne upon brown, radiating hyphæ; asci cylindrico-clavate, 8-spored, $33-40 \times 10-13$ u; sporidia hyaline, subcymbiform, 1-septate, 1-2-seriate, 10×3 u.

On leaves of Baccharis halimifolia, Florida.

6. DIMEROSPORIUM ORBICULARIS (B, & C.) Asterina orbicularis, B. & C. Grev. 4, p. 9. Ravenel F. A., No. 74. Ellis N. A. F., No. 1362.

Mycelium black, branching, remotely septate, adnate, spots orbicular, crustaceous, often coalescing; perithecia black, subglobose, 80-100 u in diameter, amphigenous, but those on the upper surface are of a dull black color, and often sterile; structure of black, septate, radiating hyphæ, in the nucleus, spreading from the apex to the circumference, are numerous moniliform threads, of subglobose, dusky cells, 10-12 u in diameter; asci ovate or obovate, 8-spored; sporidia oval, oblong, 33-36 x 15-18 u, hyaline at first, then light brown.

On leaves of Ilex coriacea and I. opaca, Carolina to Florida.

MELIOLA.

Meliola, Fr. (Etym. *melon*, from the form of the perithecia.)

Perithecia borne upon spots of superficial, grumous, radiating, black mycelium, globose, astomous, membranaceous, bristly or often appended

by a circle of setæ. Asci frequently short, thick, 2—8-spored, without paraphyses. Sporidia typically oblong, 2—5-septate, dusky, but sometimes fenestrate, hyaline or dusky. Sacc., Sylloge 1, p. 60.

1. Meliola amphitricha, Fr. Ravenel F. A., No. 82. Ellis N. A. F., No. 1296 and 1296 b.

Spots black, crustaceous, orbicular, often confluent, amphigenous, mostly hypophyllous, mycelium brown black, remotely septate, radiating, with short, pyriform, 1-septate, alternate branches; perithecia black, globose, then depressed and at length collapsing, rugulose, 200—250 *u* in diameter, circled by black, opaque, rigid, erect setæ, 300—500 x 9—12 *u*; asci oval, 2-spored, evanescent; sporidia oblong, dusky, 4-septate, constricted at the septa, 50—56 x 16—24 *u*.

On Persea, Cladium, Olea Americana, &c.

2. Meliola Cookeana, Speg. M. amphitricha, Fr., Ravenel F. A., No. 84. Ellis N. A. F., No. 1295.

Mycelium amphigenous, broadly and irregularly effused, subcrustaceous, black, easily separating when mature, hyphæ thick, branching, intricate, remotely septate, also with short pyriform, 1-septate, alternate branches; fertile hyphæ few, rigid, often only in a circle around the perithecia, 1-spored, apices entire, $120-250 \times 8-10 u$ (conidia deficient); perithecia scattered or aggregated, globose, black carbonaceous, bald, scaly, granular, 150-200 u in diameter; asci elliptic, short and thick, stipitate, 2-spored, often immature; sporidia at first hyaline then brown, oblong, 4-septate, constricted at the septa, $30-40 \times 10-12 u$.

On living leaves of Callicarpa Americana, Florida.

3. MELIOLA CRYPTOCARPA, E. & M. Am. Nat. 17, p. 1284. Ellis N. A. F. No. 1293.

Spots mostly epiphyllous, suborbicular, 2-4 mm. in diameter, numerous and often confluent; mycelium pale brown, creeping, septate, irregularly branched, bearing numerous, oblong-fusiform conidia, pale brown, 3-4-septate, $30-40 \times 5-9 u$, obtuse or acute above, and contracted below into a short, hyaline stipe; erect bristles abundant, simple, multiseptate, black, tips entire and paler; perithecia black, subglobose, not abundant and often sterile, 180-200 u in diameter, collapsing, surrounded at base with a few diverging, brown, septate appendages, which, like the bristles, are more or less crisped or undulate above. Asci oblong, ovate, 8-spored; sporidia brown, oblong, or oblong-clavate, 2-seriate, 3-5-septate, $30-50 \times 10-12 u$.

On leaves of Gordonia Lasianthus, Florida.

4. MELIOLA FENESTRATA, C. & E. Grev. 5, p. 95.

Subgregarious. Perithecia subglobose, brown, often quite smooth, sometimes with a few rigid, subulate, brown hairs equal in length to the diameter of the perithecia, 100—150 u, hyphæ brown, radiating from the base; asci not seen, sporidia elliptic, multiseptate, fenestrate, brown, 30—40 x 12 u. The whole surface of the scale stained dark brown.

On scales of pine cones, New Jersey.

5. Meliola furcata, Lev. Ravenel, F. A., No. 330. Ellis, N. A. F., No. 1297.

Spots orbicular, mostly epiphyllous, often confluent and covering nearly the entire surface; mycelium brown, creeping, remotely septate, branching, intricate also with short, obovate, 1-septate, alternate branches; perithecia black, globose, often thickly clustered, at length collapsing, appendaged, 150 u in diameter; appendages black, erect, rigid, apices twice dichotomous, 200 \times 6 u; asci ovate, rostrate, 4-spored, evanescent; sporidia brown, oblong, 4-septate, constricted at the septa, 40—60 \times 15—20 u.

On leaves of Bignonia capreolata and Sabal serrulata, Florida.

6. Meliola manca, E. & M. Am. Nat. 17, p. 1284. Ellis, N. A. F., No. 1292.

Spots orbicular, 1-2 mm. in diameter, mostly epiphyllous, thickly scattered and often confluent; mycelium black, creeping, branches opposite, also short-obovate, alternate branches (haustoria); perithecia black, subglobose, papillose, collapsing, appendages and erect hyphæ none; asci ovate-oblong, mostly 2-spored; sporidia oblong-cylindrical, brown, 3-septate, constricted at the septa, slightly curved and a little flattened, $35-45 \times 12-15 \ u$.

On living leaves of Myrica cerifera, Florida.

7. Meliola Mitchellæ, Cke. Ravenel, F. A., No. 88. Ellis, N. A. F., No. 1294.

Spots black, thin, mostly epiphyllous, often covering the entire surface, mycelium dark brown, branching, intricate, also with short, ovate, alternate, 1-septate branches; erect hyphæ, simple, dark brown, setaceous, apices entire, $250 \times 6 u$; conidia light brown, obovate or clavate, 3-septate, $27-30 \times 4 u$, borne upon erect, light brown, subhyaline hyphæ; perithecia black, globose, smooth, 100-125 u in diameter; asci-cylindricoclavate, $39 \times 9 u$; sporidia oblong-elliptic, brown, 4-septate, $35 \times 15 u$.

On leaves of Mitchella repens, Florida.

8. Meliola tenuis, B. & C. Grev. 7, p. 49. On *Arundinaria*. Ravenel, F. A., No. 330. Georgia. This appears to be Meliola amphitricha, Fr.

NEW FUNGI.

BY J. B. ELLIS AND B. M. EVERHART.

[Continued from page 141.]

LOPHIOSTOMA ROSEOTINCTUM, E. & E.—On dead twigs and limbs of Staphylea trifolia. Perithecia gregarious, hemispheric or subglobose, subcarbonaceous, black and roughish, $\frac{1}{3}$ mm. diameter, with a slightly prominent, compressed ostiolum, covered at first by the epidermis which assumes a dull rose colored tint over that part of the stems occupied by the fungus. Asci clavate-cylindrical, subsessile, 100—112 x 13—15 u;